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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,387	03/26/2004	Arun Kumar Singh	7560	8627

55740 7590 08/03/2010  
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BOSTON, MA 02110

EXAMINER
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LANG, AMY T

ART UNIT	PAPER NUMBER
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3731

MAIL DATE	DELIVERY MODE
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08/03/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/810,387	<b>Applicant(s)</b> SINGH ET AL.	
	<b>Examiner</b> AMY LANG	<b>Art Unit</b> 3731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Applicant is encouraged to amend the instant abstract so that it does not recite the legal phrase "comprising" in lines 4 and 8.

### ***Claim Objections***

2. **Claim 4** is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 4 fails to further limit claim 1 since both recite the same vegetable oils.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 1-33** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 recites wherein the emulsion has less toxicity than mineral oil. Although paragraph [0008] of the instant specification teaches the toxicity will be reduced, it does not specifically state that the toxicity will be reduced compared to mineral oil. Additionally, mineral oils can vary and therefore so can their toxicity so that it is not clear as to what mineral oil it being compared. Applicant argues that the toxicity of mineral oil is due to poly nuclear aromatics which are absent in heavy alkyl benzene and is a well known fact. However, the instant claims only recite "the toxicity" which can refer to more than just the amount of poly nuclear aromatics. For instance, mineral oil and heavy alkyl benzene can each be more or less toxic in different circumstances, such as by ingesting.

Claim 1 also recites wherein the heavy alkyl benzene is from a waste heavy fraction which is not supported by the instant specification. Applicant argues that heavy alkyl benzene is a waste product because during manufacture of LAB, it is an unwanted product. A product that has some utility is termed a "by-product" (see page 11 of the Applicant's Remarks). Therefore, Applicant clearly teaches that a waste product and a by-product are two different things. Paragraph [0017] teaches the heavy alkyl benzene

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as a by-product and not as a waste product. Therefore, it is the Examiner's position that the instant specification only supports wherein the heavy alkyl benzene is a by-product and not a waste product.

Claim 1 states wherein the emulsifier is a heavy alkyl benzene sulfonate.

Although the instant specification lists several emulsifiers, this compound is not included in that list (see paragraph [0023]). Applicant argues that paragraph [0021] provides support by stating a heavy alkylate sodium sulfonate. Therefore, Applicant only has support for this more narrow sodium sulfonate and not the broadly claimed benzene sulfonate.

Claim 1 states wherein the fungicide is a benzyl tri-ethyl ammonium chloride.

Although the instant specification lists several fungicides, this compound is not included in that list (see paragraph [0027]).

Claims 2-33 are dependent on claim 1 and therefore are also not supported by the instant specification.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 1-33** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites wherein the emulsion adds value to a waste product. However, the term "value" is vague and unclear. Specifically, what kind of value is added or how

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much value? Since the claim fails to identify the added value, the claim is rendered indefinite.

Claims 2-33 are dependent on claim 1 and therefore are also indefinite.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. **Claims 1-12 and 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Anantaneni (US 6,630,430) in view of Boffa (US 5,804,537), Tanaka (US 6,245,725 B1), Camenzind (US 7,026,438 B2), Van Dam (US 6,784,142 B2), Matsushita (US 5,741,763), Zoch (US 3,902,868), and Otaki (US 4,765,917).

Anantaneni discloses a lubricating composition for a metal surface, specifically an internal combustion engine (column 1, lines 14-19; claim 39, column 38). The composition is comprised of alkyl benzenes, having 18 to 30 carbon atoms, to enhance

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detergency (column 1, lines 20-25, 55-58). The alkyl benzenes are present in the lubricating composition from 35 to 82 wt% of the total composition (claim 1, column 32). Anantaneni teaches the method to produce the alkyl benzenes useful in the lubricant composition, which results in a fraction by-product separated from detergent class alkyl benzene (column 3, lines 19-43). Furthermore, Anantaneni discloses the use of additives in the composition including extreme pressure additives, antioxidants, and more (column 21, lines 38-45).

Anantaneni does not specifically disclose the addition of (i) an emulsifier, (ii) a lubricity booster, (iii) an antioxidant, (iv) an antirust agent, (v) a coupling agent, (vi) a fungicide, (vii) an extreme pressure additive, (viii) a co-surfactant, (ix) an alkali component, or (x) that the composition would be converted into an emulsion when stirred with 60 to 90 wt% water so that the resulting emulsion is useful as a cutting oil and a coolant, has less toxicity than mineral oil, and adds value to a waste product.

With respect to (i) above, Boffa discloses a lubricating composition for an internal combustion engine comprised of alkylated sodium sulfonates from 5 to 80 wt% (column 1, lines 6-10; column 4, lines 15-21; column 5, lines 18-21). This additive aids in producing superior engine deposit performance (column 3, lines 16-21). Although Boffa does not specifically disclose the alkylated sodium sulfonates additive as an emulsifier, given that the property of a compound is inseparable from the compound, it therefore would intrinsically function as one in a lubricating composition (*In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)). Since Anantaneni discloses a lubricating composition for an internal combustion engine and Boffa discloses that

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sodium sulfonate additives are advantageous in engine deposit performance, it would have been obvious for Anantaneni to also utilize this additive.

With respect to (ii) above, Tanaka discloses that additives are added to engine lubricating oils in order to reduce frictional losses (column 1, lines 30-34). One such additive is rice bran oil in an amount of 0.05 to 10 wt% (column 18, lines 28-30, 38; column 19, lines 16-19). Although Tanaka does not specifically disclose the castor oil additive as a lubricity booster, given that the property of a compound is inseparable from the compound, it would intrinsically function as one in a lubricating composition (*In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir.1990)). Since Anantaneni discloses a lubricating composition for an internal combustion engine and Tanaka discloses that additives including castor oil reduce frictional losses in an engine, it would have been obvious for Anantaneni to also utilize this additive.

With respect to (iii), (iv), and (v) above, Camenzind discloses a lubricating composition, specifically metal working fluid, comprised of additives to further improve performance properties (column 7, lines 60-66). The additives include the antioxidant diphenylamine, calcium petroleum sulphonates, and petroleum sulfonates each in an amount from 0.01 to 10.0 wt% (column 8, lines 2-5; column 10, line 10; column 11, lines 29 and 60). Although Camenzind does not specifically disclose the calcium petroleum sulphonates as antirust agents or the petroleum sulfonates as coupling agents, given that the property of a compound is inseparable from the compound, they would intrinsically function as such in a lubricating composition (*In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)). Since Anantaneni discloses a metal

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working fluid and Camenzind teaches the advantage of using these additives, it would have been obvious for Anantaneni to also utilize these additives.

With respect to (vi) above, Van Dam discloses a lubricating composition for an internal combustion engine comprised of specific additives (column 2, lines 48-59). The additives include a hindered phenol, which overlaps the instantly claimed phenol, from 0 to about 2.0 wt% (column 5, lines 28-31). The phenol additive aids in lowering water deposits in engines, improving dispersion of soot in engines, and controlling wear and valve train wear (column 2, lines 52-59). Although Van Dam does not specifically disclose the phenol additive as a fungicide, given that the property of a compound is inseparable from the compound, it would intrinsically function as such in a lubricating composition (*In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)). Since Anantaneni discloses a lubricating composition for an internal combustion engine and Van dam teaches the advantage of a phenol additive in an internal combustion engine, it would have been obvious for Anantaneni to also utilize this additive.

With respect to (vii) above, Matsushita discloses a metal working lubricant comprised of additives conventionally used in lubricant oils (column 1, lines 13-23; column 4, lines 16-22). One of these conventional additives is specifically disclosed as diphenyl disulfide in an amount from 0.01 to 5 wt% (column 4, lines 30, 51-53). Although Matsushita does not specifically disclose the additive as an extreme pressure agent, given that the property of a compound is inseparable from the compound, it would intrinsically function as such in a lubricating composition (*In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)). Since Anantaneni discloses a

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metal working fluid comprised of an extreme pressure agent and Matsushita discloses that diphenyl disulfide is a conventional additive in the lubricant art, it would have been obvious for Anantaneni to also utilize this additive.

With respect to (viii) above, Zoch discloses a fuel composition utilized in internal combustion engines (column 1, lines 6-7). The composition is comprised of specific additives that provide increased combustion efficiency, reduced gaseous pollutant emissions, and reduced volatility of the fuel additive (column 1, lines 44-49). One such additive is disclosed as isopropanol from 10 to 20 wt% (column 2, lines 16-25). Since Anantaneni discloses a lubricating composition for an internal combustion engine that can be utilized in fuels (column 31, lines 57-65), and Zoch discloses the advantage of an isopropanol additive to a fuel composition, it would have been obvious for Anantaneni to also utilize this additive.

With respect to (ix) above, Otaki discloses a lubricant composition for use in high temperature applications (column 1, line 66 through column 2, line 3). One extreme pressure additive is specifically disclosed as calcium carbonate, which clearly overlaps the instantly claimed alkali metal component, in an amount from 1 to about 16 wt% (column 2, lines 25-29; column 3, lines 56-60). This additive is selected since it can function under extremely high pressure conditions (column 3, lines 60-62). Therefore, since Anantaneni discloses a lubricating composition comprised of extreme pressure agents for an internal combustion engine, a high temperature environment, and Otaki discloses a specific extreme pressure agent for a high temperature environment, it would have been obvious for Anantaneni to also utilize this additive.

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With respect to (x) above, given that the combination of the above cited references leads to the claimed composition as explained above, therefore the composition would intrinsically also form an emulsion when stirred with 60 to 90 wt% water so that the resulting emulsion is useful as a cutting oil and a coolant, has less toxicity than mineral oil, and adds value to a waste product.

### ***Response to Arguments***

10. Applicant's arguments filed 05/27/2010 have been fully considered but they are not persuasive.

Specifically, applicant argues (A) that Anantaneni does not disclose the same heavy alkyl benzene as claimed. The instant specification does not support the instantly claimed alkyl benzene so the argument is not considered persuasive. Additionally, although Anantaneni does not disclose a metalworking fluid but instead describes a lubricating composition for an internal combustion engine, such is not found persuasive. An internal combustion lubricant is also a metalworking fluid.

Specifically, applicant argues (B) that Anantaneni does not disclose the use of the composition as an emulsion in water. However, this limitation is not directly claimed and the Anantaneni composition in view of the above cited references need only be capable of such.

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Specifically, applicant argues (C) that the inventions and compositions of Boffa, Tanaka, Carmenzind, Van Dam, Matsushita, Zoch, and Otaki are different from the instant invention. However, each of the above references teaches that specific components are well known in the art and obvious to use with the Anantaneni composition. Therefore, the fact that the above references teach different final compositions is not persuasive since they are only used to teach a specific component.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMY LANG whose telephone number is (571)272-9057. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anhtuan Nguyen can be reached on 571-272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

07/27/2010  
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Examiner, Art Unit 3731

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